

What is claimed is:

1. A system for automation, monitoring and measurement acquisition for a technical process having measurement and control units (2, 14, 15, 16) that are connected to sensors and actuators of the processes (1, 8, 9, 10) via measurement and control lines (3, 11, 12, 13), comprising:

a data network (4), and

system automation modules (44, 45, 46) in said data network (4) combined into automation units (39, 31, 32, 18, 19), each automation module having its own program code and being executable independently of the other automation modules.

2. The system of claim 1 wherein said data network (4) includes an automation group (99) having system automation units (18, 19, 20) each of which has its own program code and is executable independently of other of said automation units (18, 19, 20).

3. The system claim 2 wherein said data network includes an information level (22) at a higher level than said automation units (18, 19, 20), said information level (22) containing information programs (23, 24, 25, 26, 27) having reading access to said automation units (18, 19, 20) and to said automation modules (44, 45, 46).

4. The system of claim 3 wherein said information programs (23, 24, 25, 26, 27) of said information level (22) are configurable to lack access to predetermined automation groups.

5. The system of claim 2 wherein said individual automation units (18, 19, 20) are combined into an automation group and each has its own program code encapsulated from the other automation units and are executable independently of one another.

6. The system of claim 1 wherein said automation units (31, 32) are structured in a supervisory plane (33, 36), a plane of automation modules (34, 37) and a report plane (35, 38).

7. The system of claim 6 wherein said supervisory plane (33, 36) is designed for the setting

up of automation units (18, 19, 20, 31, 32) and automation modules (44, 45, 46) and for the starting and stopping of the automation modules and also displays items of information about the status of the individual automation modules (34, 37).

8. The system of claim 6 wherein said plane of automation modules (34, 37), facilitate development of additional automation modules (44, 45, 46), which are executable independently of one another and each have their own program code.

9. The system of claim 6 wherein, in said report plane (35, 38, 43), a number of reports (47, 48, 49) can be developed, which are executable independently of one another, each report having available its own program code.

10. The system of claim 9 wherein a report (47) is allocated to one of said automation modules (44) and said one automation module is data-linked to said report, the data being capable of being output in the format of said report.

11. The system of claim 10 having a supervisory plane (41, 55) including a supervisory program (40, 54) having a development mode (66) and a runtime mode (67), and wherein a development mode (68) and a runtime mode (69) is allocated to each of said automation modules (44, 45, 46) of a plane of automation modules (42), and each report (47, 48, 49) of said report plane (43, 57, 65) has available a development mode (70) and a runtime mode (71).

12. The system of claim 11 having automation modules (44, 45, 46, 58, 59, 81) structured in three planes (84, 85, 86), with a modular operation and observation plane (84) that contains diagrams (87, 88) with process visualization objects, a procedure plane (85) with procedure screens (89, 90) that contain graphical symbols as synonyms for program modules (91), and a script plane (86) in which a program code (91) is contained.

13. The system of claim 12 including a channel table (53) having fields to which said

measurement and control units (2, 14, 15, 16) and the automation modules of the automation units (18, 19, 20) are readingly and writingly connected for transmission of data.

14. The system of claim 13 including a format table (93) structured by a development mode (97) of a report, said format table (93) being writingly in effective connection with the program of an automation module (92) in runtime mode, said data being capable of being output in a format in the runtime mode (98) of said report.

15. The system of claim 13 wherein said automation units (18, 19, 20), automation modules (44, 45, 46), reports (47, 48, 49), visualization objects of the screens (87, 88) and software modules (91) are uniquely named.

16. The system of claim 13 wherein said individual automation units (81) contain a procedure screen (90) in a runtime mode (83), said procedure screen (90) having interconnected symbolic figures that represent identification features of said procedure modules, and symbolic figures that are currently functioning in said runtime mode.

17. The system of claim 1 wherein a time stamp is appended to analog process variables acquired by said measurement and control unit via sensors.

18. The system of claim 17 wherein said time stamp is appended to the edges of digital signals.